

Final Report
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Minority Summer Research Program in the Plant Sciences

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DOE Patent Clearance Granted
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Gutierrez and Larcom (2000) suggest that "According to the National Science Foundation/Division of Science Resources Studies in 1997, the percentage distribution of scientists and engineers in the labor force by race/ethnicity changed little between 1993 and 1997. According to this report, Black, non-Hispanic went from 3.6 in 1993 to 3.4 in 1997. Hispanic went from 3.0 in 1993 to 3.1 in 1997; and American Indian/Alaskan Native stayed the same at 0.3 during the same period. The only exceptions were a slight increase in the percentage of Asian from 9.2 in 1993 to 10.4 in 1997, while a slight decrease in percentage White from 83.9 in 1993 to 82.8 in 1997.

Overall, no major changes in minorities were present in the science and engineering fields during that period. These data shows that major efforts are needed in order to improve and achieve better results for diversity in the workplace (Gutierrez & Larcom, 2000). This does not mean that major steps have not been taken over this period. For example, the Minority Summer Research Program in Plant Sciences (also funded in part by NSF under the title, "Undergraduate Researchers in Plant Sciences Program") was established in an effort to enhance the diversity of the plant science community.

The Minority Summer Research Program in Plant Sciences was designed to encourage members of underrepresented groups to seek career opportunities in the plant sciences. To achieve this end, the program contained several components with the primary focus on mentored research for undergraduate students. The research experience was provided during the summer months on the campus of Michigan State University in East Lansing, Michigan. At the end of the summer experience, each participant presented an oral report on their research, and submitted a written paper on the same topic. This was deliberately designed to mimic the plant science professions in which research leads to presentations in the form of reports, papers, etc.

In addition to the program's research component, the participants met twice each week with the co-coordinators, William Gordon and Ken Poff, for an "enrichment". One "enrichment" each week was dedicated to a seminar or field experience designed to broaden the participants' views of the plant sciences. The second "enrichment" was designed to teach strategies for successfully crossing cultural barriers, and to develop the skills necessary for success in admissions to and successful completion of graduate school.

During the eleven-year duration of the program, participants have included students from underrepresented populations at Historically Black

Colleges and Universities (HBCU), an Hispanic Serving Institution (HSI), and a Native American transfer student from a Tribal College (Table I).

Table I. Ethnic Background of 1993-2003 MRPS Participants

African American	Caucasian	Hispanic	Native American	Asian Pacific Islander
56	1	16	2	1

Students have been actively recruited from a number of institutions (Table II). The co-coordinators quickly learned that recruiting underrepresented students required different strategies from those commonly employed in the "majority" community. In addition to a web site, personal contact was made with faculty at a number of institutions. It was primarily from those contacts that participants were recruited. Because of the nature of the recruiting effort, discrimination with respect to quality was applied before the application was received such that a great majority of the applications received were of acceptable quality.

In the application, students were asked for GPA, courses completed in the sciences, the names of three references, and a statement of purpose. Referees comments and the statement of purpose were particularly valuable for identifying which students were likely to succeed in this program.

Each participant was fully supported with round-trip airfare from their home to Michigan State University, housing for the duration of the program, meals for the duration of the program, health insurance for the duration of the program, and a stipend. The stipend was based on the amount of money the participant would have made had they lived at home and worked for the summer in a fast food restaurant. Thus, the amount was deliberately set to ensure that the participants would not be economically disadvantaged because of their participation in this program.

Approximately half of the participants in this program have gone through graduate or professional school following their undergraduate degree. Approximately one quarter of the participants have elected to become professional plant scientists. Based on this, the co-coordinators consider the program to have been successful.

Table 1. Home Institutions for URPS Applicants and Participants for 1993 – 2003.

Institution	Number of Applicants	Number of Participants
1. Albany State Univ. (GA)	2	1
2. Benedict Coll. (SC)	2	2
3. ClarkAtlanta Univ. (GA)	3	3
4. Dillard Univ. (LA)	1	0
5. Dordt Coll. (IA)	1	1
6. Fisk Univ. (TN)	6	4
7. Elizabeth City State Univ. (NC)	1	0
8. Florida A&M Univ. (FL)	2	2
9. Fort Valley State Univ. (GA)	10	10
10. Hampton Univ. (VA)	1	0
11. Howard Univ. (DC)	1	0
12. Jackson State Univ. (MS)	8	4
13. Lincoln Univ. (MO)	3	3
14. Michigan State Univ. (MI)	3	3
15. North Carolina A&T Univ. (NC)	1	1
16. Northwestern Indian Comm.Coll. (WA)	1	1
17. Ripon Coll. (WI)	1	1
18. Shaw Univ. (NC)	3	1
19. Southern Univ.-New Orleans (LA)	1	1
20. South Carolina State Univ. (SC)	11	8
21. Texas Southern Univ. (TX)	1	1
22. Tuskegee Univ. (AL)	6	6
23. Univ. Arkansas-Pine Bluff (AR)	1	1
24. Univ. District of Columbia (DC)	1	1
25. Univ. Maryland-Eastern Shores (MD)	2	2
26. Univ. New Mexico (NM)	3	2
27. Univ. Puerto Rico-Mayaguez (PR)	17	14
28. Univ. Virgin Islands (VI)	1	1
29. Virginia Union Univ. (VA)	3	2
Total	97	76

Because a number of participants were invited to participate in the program a second year, the total number of participants supported over the duration of the program was greater than 76. The number 76 represents the number of different participants.

LITERATURE CITED

**Gutierrez, E. and G. Larcom. 2000. Minorities In Science and Engineering: Issues At Hand and What's Being Done.
http://workplacediversity.syr.edu/200/minority_eng_sci.html**